

Discussion

1. Abstract. The USPTO requested the addition of an Abstract. Attached to this Amendment is that Abstract.

2. Rejection under 35 U.S.C. §112, second paragraph. The USPTO rejected Claim 4 as being indefinite. Accordingly, the Applicants have cancelled Claim 4, thereby overcoming this rejection.

3. Rejection under 35 U.S.C. §102(a) or 103(a). The USPTO rejected Claims 1 - 14, 19, 21 and 24, under 35 U.S.C. §102 as being anticipated by or in the alternative under 35 U.S.C. §103 as being obvious over WO 02/12363 ("Steinmetz, et al."), with U.S. 2004/0102585 relied on as a translation of this reference. The Applicants assert that the claims of the application, as amended, are not disclosed by Steinmetz, et al.

The aminoplast ether copolymers according to amended Claim 1 have an overall water solubility. The claimed composition is comprised of a water insoluble radical B, which interlinks with glycoluril units Z, to form the main chain of the copolymer. Pending to the main chain are hydrophilic polymer radicals, R1.

To achieve this overall water solubility of the polymer, the amount of the hydrophilic R1 radical in the molecule must be considerable higher than the amount of the insoluble radical B. Accordingly, the molar ratio of R1 to B is selected to be

greater than 1. Claim 1 has been amended to require that the ratio of R1 to B be from 1.5 to 4 : 1. In contrast in Steinmetz, et al., the copolymers described therein have a ratio of R1 to B which is less than 1.5.

In addition, note that the graft copolymer described in Steinmetz, et al. are soluble in organic solvents. Specifically, paragraph 16 of Steinmetz, et al. states that their copolymer are designed such that they "may be used in non-polar systems." Note also that the application of the components of Steinmetz, et al. are in "a nonpolar medium." (Paragraph 26) In addition, all copolymers synthesized in the examples of Steinmetz, et al. are water insoluble, but soluble in organic solvents, such as aromatic solvents, particularly xylene and toluene. Accordingly, in paragraph 36 Steinmetz, et al. concludes that, "[t]he object of the invention is therefore also generally the use of the already mentioned graft polymers or copolymers dissolved in an organic solvent, or into a liquid or powder form."

In contrast, the water solubility of the polymers of the invention according to Claim 1 is shown in the examples. Specifically, the copolymer synthesized in Example 2 is soluble in water. The copolymers synthesized in Examples 3 - 14 are used in an aqueous paste. (See Example 15.)

The aminoplast ether copolymers according to Claim 1 are

used as dispersants which modify the polarity of a pigment surface so that the modified polymers may be dispersed in a polar solvent, preferably water, with ease.

The copolymers according to Claim 1 also only contain a few Z units and therefore have a low polymerisation degree and as a consequence a lower molecular weight within the range from 2000 to 50 000 g/mol, as defined in amended Claim 1. This contrasts with the composition of Steinmetz, et al.

For all of these reasons the composition, as claimed, is distinct from the composition, as disclosed, in Steinmetz, et al.

CONCLUSION

The Applicants assert that all objections and rejections of the claims have been overcome by the amendments to the claims and by the introduction of the amendments to the specification. The Applicants assert that all claims are now allowable and request the issuance of a Notice of Allowability. If there are any questions concerning this Amendment, please contact Applicants' counsel.

Respectfully submitted,



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